

Remarks

Claims 1-29 remain in the application.

The Examiner has rejected claims 20-23 under 35 U.S.C. §102(b) as being anticipated by Wong et al. (U.S. Patent 5,156,820, hereafter Wong). The generally horizontally reflector of claim 22 does not read upon Wong's concave reflective surfaces. The remainder of the rejection is traversed as a misinterpretation of the clear meaning of the claim language. The ordinary mechanic would interpret Wong's radiant heat source as directing radiant energy downward even if individual lamps have curved reflectors on the upward side to reflect light back towards the wafer. However, claim 20 has been amended to require that the substrate is held between the reflector and the radiant heat source. Of course, Wong does not disclose disposing his wafer 17 between his radiant heating lamps L and his concave reflecting surfaces in his lamp housing 11. A new set of claims 26-30 require the reflector be disposed above the support but the substrate must be held above the heat source, contrary to Wong's geometry.

The Examiner has rejected claims 1-10 under 35 U.S.C. §103(a) as being obvious over Ballance et al. (U.S. Patent 6,090,210, hereafter Ballance). There was an error in drafting claims 1 and since the filed claim read upon front side processing rather than the desired backside thermal processing. This error has been corrected in claims 1 and 8, and several dependent claims suffering from related errors have been similarly corrected. Ballance does not explicitly state that his RTP apparatus is performing front side processing. However, his description of a showerhead and process gas holes 60 of FIG. 3 included in his adapter plate 42 of FIG. 1 implies that the process gas is processing, whether by etching or CVD the upwardly facing front side of the wafer 16, the same said of the wafer being irradiated by the lamps 44. That is, Ballance is describing conventional front side RTP with the front side of the wafer facing upwardly toward the radiant lamp array and the back side facing the reflector and the thermal monitors.

In contrast, claim 1 now requires the back side faces the radiant heating source and the back side is thermally monitored. Further, claim 8 now requires that the back side faces the

radiant heat source and the front side faces the reflector.

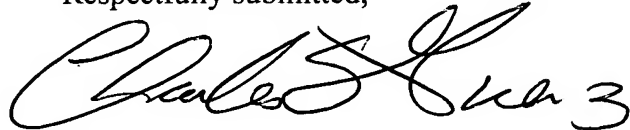
A new claim 24 depending from claim 8 recites the orientation complementary to that of claim 10. A new set of claims 25-29 focuses on the inverted geometry of radiant lamps below the reflector with the substrate positioned between. Claim 26 then introduces the back side radiant heating.

The Examiner has allowed claim 11-19. However, claim 11 has been amended to conform to the original intent evident in the description of the wafer front side facing the reflector.

In view of the above amendments and remarks, reconsideration and allowance of all claims are respectfully requested. If the Examiner believes that a telephone interview would be helpful, he is invited to contact the undersigned attorney at the listed telephone number, which is on California time.

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